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University of California
College of Agriculture
Agricultural Experiment Station
Berkeley, California

SEASONAL LABOR NEEDS FOR CALIFORNIA CROPS

YUBA COUNTY

Progress Report No. 58

by

R. L. Adams

Preliminary -- Subject to Correction

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(Farm Labor Survey -- July-December, 1936)

Progress Report No. 58

Seasonal Labor Needs for California Crops

Yuba County

Scope of Presentation.-- The following considerations govern the presentation of this progress report:

1. The data are confined to the area indicated above.

2. The data are confined solely to crops, livestock needs being ignored.

3. The findings apply only to occasional or seasonal labor requirements as distinguished from labor contributed by farm operators and by workers employed on a year-round or regular basis of employment.

4. Attention is concentrated upon workers required for hand tasks -- planting, thinning, weeding, hoeing, and harvesting -- without including teamsters, tractor drivers, irrigators, and shed packers of vegetables or fruits.

5. The presentation includes the so-called migratory, transient, or roving workers which comprise an important source of help needed in connection with certain tasks and at "peak" times which seasonally arise in connection with many field, truck, and fruit crops commercially produced in California.

6. This report is confined to California's need for seasonal agricultural workers because of the more pressing problems liable to arise in connection therewith. A later study is planned which will deal with other kinds of labor involved in the production of California's many crops.

Brief Description of the Area.-- Yuba County is located in the northeastern part of California, its eastern boundary which separates it from Sierra County being about 50 miles from the Nevada state line. It lies in the eastern part of the Sacramento Valley, about 40 miles from Sacramento. The Feather River divides it from Sutter County on the west, while Butte County bounds it on the north and Nevada County on the south. The county has an area of 404,480 acres, of which 98,435 acres are classified as available for crops by the United States Census of 1935. Further classification is as follows:

	Acreage
Crop land harvested	42,927
Crop failure	652
Crop land idle or fallow	17,856
Plowable pasture	37,000
Total land available for crops	98,435

The principal agricultural area composes a more or less continuous section contiguous to the Feather River. This area commences at the junction of the Feather and Bear rivers and extends northeast about 35 miles to include Brown's Valley on the north side of the Yuba River. It is about 10 miles wide. The area is devoted, quite extensively, to berries, deciduous fruits, and grapes while about one-fourth of the acreage is in irrigated field crops. The soil is not deep enough for alfalfa, however.

(Farm Labor Survey -- July-December, 1936)

Progress Report No. 88

Seasonal Labor Needs for California Crops

Yuba County

Scope of Presentation.-- The following considerations govern the presentation of this progress report:

1. The data are confined to the area indicated above.

2. The data are confined solely to crops. Livestock needs being ignored.

3. The findings apply only to occasional or seasonal labor requirements as distinguished from labor contributed by farm operators and by workers employed on a year-round or regular basis of employment.

4. Attention is concentrated upon workers required for hand tasks -- planting, thinning, weeding, hoeing, and harvesting -- without including teamsters, tractor drivers, irrigators, and sled packers of vegetables or fruits.

5. The presentation includes the so-called migratory, transient, or roving workers which comprise an important source of help needed in connection with certain tasks and at "peak" times which seasonally arise in connection with many field, truck, and fruit crops commercially produced in California.

6. This report is confined to California's need for seasonal agricultural workers because of the more pressing problems likely to arise in connection therewith. A later study is planned which will deal with other kinds of labor involved in the production of California's many crops.

Brief Description of the Area.-- Yuba County is located in the northeastern part of California, its eastern boundary which separates it from Sierra County being about 30 miles from the Nevada state line. It lies in the eastern part of the Sacramento Valley, about 40 miles from Sacramento. The Feather River divides it from Sutter County on the west, while Butte County bounds it on its north and Nevada County on the south. The county has an area of 404,480 acres, of which 98,458 acres are classified as available for crops by the United States Census of 1930. Further classification is as follows:

	Acreage
Crop land harvested	42,927
Crop failure	656
Crop land idle or fallow	17,856
Plowable pasture	37,000
Total land available for crops	98,458

The principal agricultural area comprises a more or less continuous section contiguous to the Feather River. This area commences at the junction of the Feather and Bear rivers and extends northeast about 35 miles to include Browns's Valley on the north side of the Yuba River. It is about 10 miles wide. The area is devoted, quite extensively, to berries, deciduous fruits, and prunes while about one-fourth of the acreage is in irrigated field crops. The soil is not deep enough for alfalfa, however.

Crops, Acreages, and Production.-- The basis used in calculating occasional or seasonal need for labor, other than that furnished by farm operators and regularly employed workers, appears as table 1.

TABLE 1

Basis for Calculating Seasonal Labor Requirements
Yuba County

Crop	Acreage	Production
Field crops:*		
Alfalfa †	2,540	11,316 tons
Grain -- barley	10,698	224,826 bushels = 107,916 cwt.
oats	3,317	76,060 bushels = 24,340 cwt.
wheat	5,460	76,710 bushels = 46,026 cwt.
Grain sorghums †	302	5,381 bushels
Hay -- grain	3,154	4,718 tons
volunteer, etc.	1,829	2,487 tons
Hops ‡	546	3,609 bales of 190 pounds net §
Rice	1,763	61,810 bushels
Vetch seed †	100	--
Seed crops: † (beet, carrot, lettuce)	163	--
Vegetable crops: ¶		
Peas -- spring †	50	--
Tomatoes -- canning	260	2,080 tons
Fruit and nut crops: ‖		
Almonds	185.3	36 tons
Apples †	9.7	--
Apricots	63.0	250 tons fresh weight, dried §
Cherries -- Royal Ann	28.3)	(45 tons barrelled
other varieties	84.2)	(80 tons shipped east
Figs	266.1	150 tons (dry weight)
Filberts †	8.0	--
Nectarines	136.9	500 tons shipped (38 cars)
Olives	888.4	(421.5 tons for canning (195.5 tons not for canning**
Oranges †	5.3	--
Peaches -- Tuscan	112.0)	(20,150 tons canned
Phillips	809.7)	22,050 tons (1,900 tons (fresh
other varieties	1,736.2)	(weight) dried
freestone	81.7	290 tons (165 tons shipped (125 tons (fresh weight) dried)
Pears (mostly Bartlett)	848.8	6,600 tons (2,600 tons canned (1,300 tons dried (2,700 tons shipped east
Persimmons †	4.7	--
Plums †	22.0	35 tons (canning varieties)
Prunes (mostly French)	1,681.6	2,500 tons (dry weight)
Walnuts	315.0	143,100 pounds (118,800 pounds (merchantable †† (24,300 pounds culls ((estimated)
Grapes -- table and raisin †	99.6	
juice varieties	186.5	

Crops, Acreage, and Production.-- The basis used in calculating occasional or seasonal need for labor, other than that furnished by farm operators and regularly employed workers, appears as table 1.

TABLE 1

Basis for Calculating Seasonal Labor Requirements
Yuba County

Crop	Acreage	Production
Field crops:*		
Alfalfa †	2,940	11,316 tons
Grain -- barley	10,698	224,828 bushels = 107,918 cwt.
oats	3,317	76,080 bushels = 24,240 cwt.
wheat	3,460	76,720 bushels = 46,028 cwt.
Grain sorghums †	302	3,281 bushels
Hay -- grain	3,184	4,716 tons
volunteer, etc.	1,829	2,487 tons
Hops ‡	848	3,609 bales of 180 pounds net ‡
Rice	1,763	81,810 bushels
Vetch seed †	100	--
Seed crops: † (beet, carrot, lettuce)	183	--
Vegetable crops: ¶		
Peas -- spring †	80	--
Tomatoes -- canning	260	9,080 tons
Fruit and nut crops: ‖		
Almonds	185.5	36 tons
Apples †	9.7	--
Apricots	83.0	250 tons fresh weight, dried ¶
Cherries -- Royal Ann	25.5	(45 tons berries)
other varieties	84.5	(80 tons shipped meat
Figs	288.1	180 tons (dry weight)
Filberts †	8.0	--
Nectarines	136.9	800 tons shipped (38 cars)
Olives	888.4	(421.5 tons for canning
		(195.5 tons not for canning**
Oranges †	8.3	--
Peaches -- Tuscan	112.0	(20,150 tons canned
Phillips	809.7	28,050 tons (1,900 tons fresh
other varieties	1,736.2	(weight) dried
freestone	81.7	290 tons (165 tons shipped
		(125 tons fresh weight)
		dried)
Pears (mostly Bartlett)	848.8	8,800 tons (8,800 tons canned
		(1,300 tons dried
		(2,700 tons shipped meat
Persimmons †	4.7	--
Plums †	22.0	35 tons (canning varieties)
Prunes (mostly French)	1,681.6	2,300 tons (dry weight)
Walnuts	315.0	143,100 pounds (118,800 pounds
		(merchantable ‡‡
		(24,300 pounds culls
		((estimated)
Grapes -- table and raisin †	89.5	
juice varieties	136.5	

Footnotes to table 1.

* Acreage and production of field crops are from United States Census of 1935 with the exception of hops and vetch seed.

† Acreage or production of these crops is so small that use of seasonal labor is inconsequential and hence ignored.

‡ Data on hops are from Irving S. Marks, Sacramento.

§ The following drying ratios have been used in this report:

Hops	4 to 1
Apricots	5 to 1
Prunes	2.5 to 1

¶ Acreage of vegetable crops is from Federal State Crop Reporting Service for year 1935.

‖ Acreage of fruit and nut crops is from H. A. Crane, Agricultural Commissioner, Yuba County, and includes bearing acreage only.

** Olive production estimated by California Olive Association.

†† Walnut production is for 1935 crop, as reported by Walnut Control Board.

Operations Requiring Seasonal Labor and Time of Need.-- Farm operations requiring the use of seasonal or occasional labor for the various crops raised in Yuba County are indicated in table 2. This tabulation does not include the employing of shed workers needed to wash, pack, and prepare various commodities for shipping and marketing.

TABLE 2

Operations Requiring Use of Seasonal Labor and Times of Needs by Crops
Yuba County

Crop	Operation	Time of need	Per cent of work done by seasonal help	Output per man-day
Field crops:				
Grain	Threshing -- with combine	June 1-30 -- 50 per cent of acreage July 1-31 -- 50 per cent of acreage	80	5 acres
Hay, other than alfalfa	Mowing	May 1-31 -- all of job	50	8 acres
	Raking	May 1-31 -- all of job	50	16 acres
	Shocking	May 1-31 -- all of job	50	30 acres
Hops	Pruning, stringing, etc.	March 1-31 -- 50 per cent of job April 1-30 -- 50 per cent of job	100	Total of 6 man-days per acre

Table continued on next page.

Footnotes to table 1.

* Acreage and production of field crops are from United States Census of 1935 with the exception of hops and vetch seed.

† Acreage or production of these crops is so small that use of seasonal labor is inconsequential and hence ignored.

‡ Data on hops are from Irving S. Marks, Sacramento.

§ The following drying ratios have been used in this report:

Hops	4 to 1
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‖ Acreage of fruit and nut crops is from H. S. Crane, Agricultural Commissioner, Yuba County, and includes bearing acreage only.

** Olive production estimated by California Olive Association.

†† Walnut production is for 1935 crop, as reported by Walnut Control Board.

Operations Requiring Seasonal Labor and Time of Need.-- Four operations requiring the use of seasonal or occasional labor for the various crops grown in Yuba County are indicated in table 2. This tabulation does not include the employing of shed workers needed to wash, peel, and prepare various commodities for shipping and marketing.

TABLE 2

Operations Requiring Use of Seasonal Labor and Times of Needs by Crops
Yuba County

Crop	Operation	Time of need	Per cent of work done by seasonal help	Output per man-day
Field crops: Grain	Threshing -- with combine	June 1-30 -- 50 per cent of acreage July 1-31 -- 50 per cent of acreage	80	- acres
Hay, other than alfalfa	Mowing Raking Shocking	May 1-31 -- all of job May 1-31 -- all of job May 1-31 -- all of job	50 50 50	5 acres 15 acres 50 acres
Hops	Pruning, stringing, etc.	March 1-31 -- 50 per cent of job April 1-30 -- 50 per cent of job	100	Total of 6 man-days per acre

Table continued on next page.

Table 2 continued.

Crop	Operation	Time of need	Per cent of work done by seasonal help	Output per man-day
Field crops: Hops (cont.)	Training	May 7-31 -- 2/3 of job June 1-15 -- 1/3 of job	100	Total of 6 man-days per acre
	Picking	August 10-31 -- 2/3 of crop September 1-10 -- 1/3 of crop	100	200 pounds green weight
	Drying	August 10-31 -- 2/3 of crop September 1-10 -- 1/3 of crop	75	4,000 pounds green weight
	Baling	September 10-30 -- all of crop	60	15 bales of 190 pounds dry weight
Rice	Push heading and swathing	September 15-30 -- 25 per cent of acreage October 1-31 -- 75 per cent of acreage	50	13 acres
	Threshing -- with pick-up combine	September 23-30 -- 15 per cent of acreage October 1-31 -- 70 per cent of acreage November 1-7 -- 15 per cent of acreage	50	125 cwt. (or 3 acres)
Vegetable crops: Tomatoes -- canning	Picking	August 15-31 -- 20 per cent of crop September 1-30 -- 40 per cent of crop October 1-31 -- 40 per cent of crop	100	2,000 pounds
Fruit and nut crops: Almonds	Knocking	August 1-31 -- 30 per cent of crop September 1-30 -- 70 per cent of crop	100	150 pounds
	Hulling	August 1-31 -- 30 per cent of crop September 1-30 -- 70 per cent of crop	50	400 pounds
Apricots	Picking	June 5-30 -- 80 per cent of crop July 1-5 -- 20 per cent of crop	100	1,200 pounds
	Cutting for drying	June 5-30 -- 80 per cent of job July 1-10 -- 20 per cent of job	100	1,000 pounds

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Table 2 continued.

Crop	Operation	Time of need	Per cent of work done by seasonal help	Output per man-day
Field crops: Hops (cont.)	Training	May 7-31 -- 2/3 of job June 1-15 -- 1/3 of job	100	Total of 6 man-days per acre
	Picking	August 10-31 -- 2/3 of crop September 1-10 -- 1/3 of crop	100	500 pounds green weight
	Drying	August 10-31 -- 2/3 of crop September 1-10 -- 1/3 of crop	75	4,000 pounds green weight
	Baling	September 10-30 -- all of crop	60	15 bales or 750 pounds dry weight
Rice	Push heading and swathing	September 15-30 -- 25 per cent of acreage October 1-31 -- 75 per cent of acreage	50	15 acres
	Threshing -- with pick-up combine	September 25-30 -- 15 per cent of acreage October 1-31 -- 70 per cent of acreage November 1-7 -- 15 per cent of acreage	50	165 cwt. (or 3 acres)
Vegetable crops: Tomatoes -- canning	Picking	August 15-31 -- 20 per cent of crop September 1-30 -- 40 per cent of crop October 1-31 -- 40 per cent of crop	100	2,000 pounds
Fruit and nut crops: Almonds	Knocking	August 1-31 -- 30 per cent of crop September 1-30 -- 70 per cent of crop	100	150 pounds
	Hulling	August 1-31 -- 30 per cent of crop September 1-30 -- 70 per cent of crop	50	400 pounds
Asparagus	Picking	June 5-30 -- 80 per cent of crop July 1-5 -- 20 per cent of crop	100	1,200 pounds
	Cutting for drying	June 5-30 -- 80 per cent of job July 1-10 -- 20 per cent of job	100	1,000 pounds

Table continued on next page.

Table 2 continued.

Crop	Operation	Time of need	Per cent of work done by seasonal help	Output per man-day
Fruit and nut crops (cont.):				
Apricots (cont.)	Other dry yard labor	June 5-30 -- 75 per cent of job July 1-10 -- 25 per cent of job	100	11 hours per fresh ton*
Cherries	Picking for shipping	May 1-31 -- 75 per cent of job June 1-10 -- 25 per cent of job	100	100 pounds
	Picking for barrelling	May 15-31 -- 60 per cent of job June 1-10 -- 40 per cent of job	100	200 pounds
Figs -- Adriatic	Picking up	September 1-30 -- 80 per cent of crop October 1-7 -- 20 per cent of crop	100	600 pounds dry weight
	Dipping, sulfuring, and other dry yard labor	September 1-30 -- 80 per cent of job October 1-7 -- 20 per cent of job	50	33 hours per dry ton
	Sorting	September 13-30 -- 50 per cent of job October 1-19 -- 50 per cent of job	100	975 pounds in 8 hours
Nectarines	Pruning	November -- 25 per cent of acreage December -- 25 per cent of acreage January -- 25 per cent of acreage February -- 25 per cent of acreage	80	0.25 acre
	Thinning	May 1-31 -- all of acreage	100	0.17 acre
	Picking	July 1-20 -- all of crop	100	1,000 pounds
Olives	Picking for pickling	October 1-31 -- 50 per cent of job November 1-30 -- 50 per cent of job	90	200 pounds
	Picking for oil, etc.	December -- 1/3 of job January -- 1/3 of job February -- 1/3 of job	90	400 pounds

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Table 2 continued.

Crop	Operation	Time of need	Per cent of work done by seasonal help	Output per man-day
Fruit and nut crops (cont.): Peaches -- freestone and clingstone	Pruning	November -- 25 per cent of acreage December -- 25 per cent of acreage January -- 25 per cent of acreage February -- 25 per cent of acreage	80	0.25 acre
	Brush burning	November -- 25 per cent of acreage December -- 25 per cent of acreage January -- 25 per cent of acreage February -- 25 per cent of acreage	50	2.5 acres
	Spraying	November -- 50 per cent of acreage December -- 50 per cent of acreage February -- 50 per cent of acreage March -- 50 per cent of acreage May 1-31 -- all of acreage	75	1.25 acres
	Thinning	April 25-30 -- 5 per cent of acreage May 1-31 -- 85 per cent of acreage June 1-30 -- 10 per cent of acreage	100	0.17 acre
	Picking and grading -- clingstone varieties	July 15-31 -- 1 per cent of crop August 1-31 -- 62 per cent of crop September 1-15 -- 37 per cent of crop	100	2,000 pounds
	Picking -- freestone varieties	July 20-31 -- 25 per cent of crop August 1-31 -- 75 per cent of crop	100	2,000 pounds
	Cutting for drying -- clingstone varieties	August 1-31 -- 70 per cent of job September 1-15 -- 30 per cent of job	100	1,000 pounds
	Cutting for drying -- freestone varieties	July 20-31 -- 25 per cent of job August 1-31 -- 75 per cent of job	100	1,500 pounds

Table continued on next page.

Table 2 continued.

Crop	Operation	Time of need	Per cent of work done by seasonal help	Output per man-day
Fruit and nut crops (cont.): Peaches (cont.)	Other dry yard labor -- clingstone and freestone	July 20-31 -- 1 per cent of job August 1-31 -- 59 per cent of job September 1-20 -- 40 per cent of job	100	11.5 hours per fresh ton*
Pears	Pruning	November -- 25 per cent of acreage December -- 25 per cent of acreage January -- 25 per cent of acreage February -- 25 per cent of acreage	100	0.1 acre
	Brush burning	November -- 25 per cent of acreage December -- 25 per cent of acreage January -- 25 per cent of acreage February -- 25 per cent of acreage	50	2.5 acres
	Picking	July 1-31 -- 50 per cent of crop August 1-25 -- 50 per cent of crop	100	1,500 pounds
	Cutting for drying	July 10-31 -- 40 per cent of job August 1-31 -- 60 per cent of job	100	1,000 pounds
	Other dry yard labor	July 10-31 -- 30 per cent of job August 1-31 -- 60 per cent of job September 1-15 -- 10 per cent of job	100	26.5 hours per fresh ton*
Prunes	Pruning -- 25 per cent of acreage	November -- 25 per cent of acreage December -- 25 per cent of acreage January -- 25 per cent of acreage February -- 25 per cent of acreage	100	0.5 acre

Table continued on next page.

Table 2 continued.

Crop	Operation	Time of need	Per cent of work done by seasonal help	Output per man-day
Fruit and nut crops (cont.): Prunes (cont.)	Brush burning	November -- 25 per cent of acreage December -- 25 per cent of acreage January -- 25 per cent of acreage February -- 25 per cent of acreage	50	2.5 acres
	Picking up	August 1-31 -- 25 per cent of crop September 1-30 -- 75 per cent of crop	100	1 ton
	Dipping and drying by dehydrator -- 60 per cent of crop	August 1-31 -- 25 per cent of job September 1-30 -- 75 per cent of job	80	6 man-hours per fresh ton †
	Dipping and drying by sun -- 40 per cent of crop	August 1-31 -- 20 per cent of job September 1-30 -- 80 per cent of job	80	8.3 man-hours per fresh ton*
Walnuts	Knocking and picking up	September 24-30 -- 15 per cent of crop October 1-31 -- 75 per cent of crop November 1-15 -- 10 per cent of crop	100	200 pounds

* From Christie, A. W. and L. C. Barnard. The principles and practice of sun-drying fruit. California Agr. Exp. Sta. Bul. 388:40-60. 1925.

† From Christie, A. W. revised by P. F. Nichols. The dehydration of prunes. California Agr. Exp. Sta. Bul. 404:7. 1929.

Findings of Seasonal Labor Needs.-- Details and summaries of seasonal labor requirements of Yuba County agriculture are presented as table 3. The "size of task" are figures drawn from table 1, in terms of either acreage or output in tons, crates, boxes, or whatever unit is commonly used. The "output per man-day" is an average figure for the entire acreage or output figured in crates, hampers, boxes, or other units as indicated in the table. If the work is of a nature that requires a crew different members of which perform different tasks, then the average shown is per man based on the entire crew. Length of day is 9 hours, November to February; 10 hours, March to October, unless otherwise stated. Wide variations in output occur between farm and farm, field and field, and season and season, because of differences in soil types, climatic conditions, weeds, yields, and other factors influencing the amount of work that a laborer can perform in a given day. Moreover, the basis of output is a mature, experienced male worker without reference to use

of women, children, and more or less inexperienced help that is sometimes used in connection with certain of the tasks requiring use of seasonal workers. The column headed "available days" reflects (a) limitations set from the period within which the work must be performed because of the nature of the task, such as transplanting, thinning, weeding, and cutting, and (b) available days as determined by weather conditions, inclement weather reducing the number of days when a required task can be performed. The "required number of individuals" is given in terms of workers as noted above in connection with " output per man-day."

It is probable that the estimated number of workers required, as recorded in table 3, will often be too tow, for the reason that "peaks" frequently occur, during which an unusually large proportion of the job is done in a very short period. This would naturally require a much greater number of workers than when the work is spread over a longer period, even though the total amount of labor (in man-days) remains the same.

TABLE 3

Seasonal Labor Needs -- Yuba County -- by Months and Tasks

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
January	Nectarines: Pruning	27 acres †	0.25 acre	108	18	6
	Olives: Picking for oil, etc.	59 tons †	0.2 ton	295	18	17
	Peaches (clingstone and freestone):					
	Pruning	548 acres †	0.25 acre	2,192	18	122
	Brush burning	342 acres †	2.5 acres	137	18	8
	Pears: Pruning	212 acres	0.1 acre	2,120	18	118
	Brush burning	106 acres †	2.5 acres	43	18	3
	Prunes: Pruning	105 acres	0.5 acre	210	18	12
	Brush burning	52 acres †	2.5 acres	21	18	2
	Totals			5,126	18	285 man-months ‡
February	Nectarines: Pruning	27 acres †	0.25 acre	108	19	6
	Olives: Picking for oil, etc.	58 tons †	0.2 ton	290	19	16
	Peaches (clingstone and freestone):					
	Pruning	548 acres †	0.25 acre	2,192	19	116
	Brush burning	342 acres †	2.5 acres	137	19	8
	Spraying	1,028 acres †	1.25 acres	823	19	44
	Pears: Pruning	212 acres	0.1 acre	2,120	19	112
	Brush burning	106 acres †	2.5 acres	43	19	3
	Prunes: Pruning	105 acres	0.5 acre	210	19	12
	Brush burning	52 acres †	2.5 acres	21	19	2
	Totals			5,944	19	313 man-months
March	Hops: Pruning, stringing, etc.	546 acres	¢	1,638	21	78
	Peaches: Spraying	1,027 acres †	1.25 acres	822	21	40
	Totals			2,460	21	118 man-months
April	Hops: Pruning, stringing, etc.	546 acres	¢	1,638	22	75
	Peaches (all): Thinning	137 acres	0.17 acre	806	4	202 (Apr. 25-30)
	Totals			2,444	22	112 man-months
May	Hay (other than alfalfa): Mowing	2,492 acres †	8.0 acres	312	24	13
	Raking	2,492 acres †	16.0 acres	156	24	7
	Shocking	2,492 acres †	30.0 acres	84	24	4

Table continued on next page.

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
May (contd.)	Hops: Training	546 acres	ϕ	2,184	19	115 (May 7-31)
	Cherries: Picking for shipping	120,000 pounds	100 pounds	1,200	24	50
	Picking for barrelling	54,000 pounds	200 pounds	270	12	23 (May 15-31)
	Nectarines: Thinning	140 acres	0.17 acre	824	24	35
	Peaches (all): Spraying	2,055 acres†	1.25 acres	1,644	24	69
	Thinning	2,329 acres	0.17 acre	13,700	24	571
	Totals			20,374	24	849 man-months
June	Grain (barley, wheat, oats): Threshing (with combine)	7,790 acres†	5.0 acres	1,558	25	63
	Hops: Training	546 acres	ϕ	1,092	12	93 (June 1-15)
	Apricots: Picking	200 tons	0.6 ton	334	21	16 (June 5-30)
	Cutting for drying	200 tons	0.5 ton	400	21	19 (June 5-30)
	Other dry yard labor	188 tons ¶	"	207	21	10 (June 5-30)
	Cherries: Picking for shipping	40,000 pounds	100 pounds	400	8	50 (June 1-10)
	Picking for barrelling	36,000 pounds	200 pounds	180	8	23 (June 1-10)
	Peaches: Thinning	214 acres	0.17 acre	1,259	25	51
	Totals			5,429	25	218 man-months
July	Grain (barley, oats, wheat): Threshing (with combine)	7,790 acres†	5.0 acres	1,558	26	60
	Apricots: Picking	50 tons	0.6 ton	83	4	21 (July 1-5)
	Cutting for drying	50 tons	0.5 ton	100	4	25 (July 1-5)
	Other dry yard labor	62 tons ¶	"	69	8	9 (July 1-10)
	Nectarines: Picking	500 tons	0.5 ton	1,000	17	59 (July 1-20)
	Peaches (clingstone varieties):					
	Picking and grading	220 tons	1.0 ton	220	13	17 (July 15-31)
	(freestone varieties):					
	Picking	73 tons	1.0 ton	73	8	10 (July 20-31)
	Cutting for drying	31 tons	0.75 ton	42	8	6 (July 20-31)
	Other dry yard labor	20 tons ¶	"	23	8	3 (July 20-31)
	Pears: Picking	3,300 tons	0.75 ton	4,400	26	170
	Cutting for drying	520 tons	0.5 ton	1,040	18	58 (July 10-31)
	Other dry yard labor	390 tons ¶	"	1,034	18	58 (July 10-31)
	Totals			9,642	26	371 man-months

Table continued on next page.

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
August	Hops: Picking	1,828,560 pounds	200 pounds	9,143	18	508 (Aug. 10-31)
	Drying	1,371,420 pounds†	4,000 pounds	343	18	20 (Aug. 10-31)
	Tomatoes (canning): Picking	416 tons	1.0 ton	416	13	32 (Aug. 15-31)
	Almonds: Knocking	21,600 pounds	150 pounds	144	26	6
	Hulling	10,800 pounds†	400 pounds	27	26	2
	Peaches clingstone : Picking and grading	13,671 tons	1.0 ton	13,671	26	526
	freestone : Picking	217 tons	1.0 ton	217	26	9
	clingstone : Cutting for drying	1,330 tons	0.5 ton	2,660	26	103
	freestone : Cutting for drying	94 tons	0.75 ton	126	26	5
	clingstone and freestone : Other dry yard labor	1,195 tons ¶	//	1,375	26	53
	Pears: Picking	3,300 tons	0.75 ton	4,400	22	200 (Aug. 1-25)
	Cutting for drying	780 tons	0.5 ton	1,560	26	60
	Other dry yard labor	780 tons ¶	//	2,067	26	80
	Prunes: Picking up	1,313 tons	1.0 ton	1,313	26	51
	Dipping and drying by dehydrator	630 tons † ¶	//	378	26	15
	Dipping and drying by sun	420 tons † ¶	//	349	26	14
	Totals			38,189	26	1,500 man-months
September	Hops: Picking	914,280 pounds	200 pounds	4,572	9	508 (Sept. 1-10)
	Drying	685,710 pounds†	4,000 pounds	172	9	20 (Sept. 1-10)
	Baling	2,165 bales	15 bales	145	17	9 (Sept. 10-30)
	Rice: Push heading and swathing	220 acres †	13 acres	17	13	2 (Sept. 15-30)
	Threshing (with pick up combine)	132 acres †	3 acres	44	6	8 (Sept. 23-30)
	Tomatoes (canning): Picking	832 tons	1.0 ton	832	26	32
	Almonds: Knocking	50,400 pounds	150 pounds	337	26	13
	Hulling	25,200 pounds †	400 pounds	63	26	3
	Figs: Picking up	120 tons	0.3 ton	400	26	16
	Dipping, sulfuring, and other dry yard labor	60 tons †	//	198	26	8
	Sorting	150,000 pounds	975 pounds**	154	15	11 (Sept. 17-30)

Table continued on next page.

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
September (contd.)	Peaches (clingstone): Picking and grading	1,544 tons	1.0 ton	1,544	13	119 (Sept. 1-15)
	Cutting for drying (clingstone and freestone):	570 tons	0.5 ton	1,140	13	88 (Sept. 1-15)
	Other dry yard labor	810 tons ¶	"	932	17	55 (Sept. 1-20)
	Pears: Other dry yard labor	130 tons ¶	"	345	13	27 (Sept. 1-15)
	Prunes: Picking up	3,937 tons	1.0 ton	3,937	26	152
	Dipping and drying by dehydrator	1,890 tons ¶ †	"	1,134	26	44
	Dipping and drying by sun	1,680 tons ¶ †	"	1,395	26	54
	Walnuts: Knocking and picking up	21,465 pounds	200 pounds	108	5	22 (Sept. 24-30)
	Totals			17,469	26	672 man-months
October	Rice: Push heading and swathing	661 acres †	13 acres	51	24	3
	Threshing with pick up combine	617 acres †	3 acres	206	24	9
	Tomatoes (canning): Picking	832 tons	1.0 ton	832	24	35
	Figs: Picking up	30 tons	0.3 ton	100	5	20 (Oct. 1-7)
	Dipping, sulfuring, and other dry yard labor	15 tons †	"	50	5	10 (Oct. 1-7)
	Sorting	150,000 pounds	975 pounds**	154	16	10 (Oct. 1-19)
	Olives: Picking for pickling	190 tons †	0.1 ton	1,900	24	80
	Walnuts: Knocking and picking up	107,325 pounds	200 pounds	537	24	23
	Totals			3,830	24	160 man-months
November	Rice: Threshing with pick up combine	132 acres †	3.0 acres	44	5	9 (Nov. 1-7)
	Nectarines: Pruning	28 acres †	0.25 acre	112	23	5
	Olives: Picking for pickling	189 tons †	0.1 ton	1,890	23	83
	Peaches (clingstone and freestone):					
	Pruning	548 acres †	0.25 acre	2,192	23	96
	Brush burning	343 acres †	2.5 acres	138	23	6
	Spraying	1,028 acres †	1.25 acres	823	23	36
	Pears: Pruning	213 acres	0.1 acre	2,130	23	93
	Brush burning	106 acres †	2.5 acres	43	23	2
	Prunes: Pruning	105 acres	0.5 acre	210	23	10
	Brush burning	53 acres †	2.5 acres	22	23	1
	Walnuts: Knocking and picking up	14,310 pounds	200 pounds	72	11	7 (Nov. 1-15)
	Totals			7,676	23	334 man-months

Table continued on next page.

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
December	Nectarines: Pruning	28 acres †	0.25 acre	112	18	7
	Olives: Picking for oil, etc.	59 tons †	0.2 ton	295	18	17
	Peaches (clingstone and freestone):					
	Pruning	548 acres †	0.25 acre	2,192	18	122
	Brush burning	343 acres †	2.5 acres	138	18	8
	Spraying	1,027 acres †	1.25 acres	822	18	46
	Pears: Pruning	212 acres	0.1 acre	2,120	18	118
	Brush burning	106 acres †	2.5 acres	43	18	3
	Prunes: Pruning	105 acres	0.5 acre	210	18	12
	Brush burning	53 acres †	2.5 acres	22	18	2
	Totals			5,954	18	331 man-months

* On a monthly basis unless otherwise noted.

† Estimated portion of the job done by seasonal workers.

‡ It should be noted that this figure, rather than representing the number of workers required, represents the number of man-months of labor required and is derived by dividing the total number of man-days of labor by the number of days available for work during the month.

§ Hop pruning and stringing estimated to require 6 man-days per acre, half in March and half in April; the training also estimated to require 6 man-days per acre, two-thirds in May and one-third in June.

¶ Fresh weight.

|| Dry yard labor other than cutting estimated as follows:

Apricots: 11 man-hours per fresh ton
Figs: 33 man-hours per dry ton.
Peaches: 11.5 man-hours per fresh ton
Pears: 26.5 man-hours per fresh ton
Prunes: by dehydrator, 6 man-hours per fresh ton
by sun drying, 8.3 man-hours per fresh ton

** Rate of work for an 8-hour day.

TABLE 4

Summary of Seasonal Labor Needs by Months

Yuba County

1935

Month	Required man-days of seasonal labor	Available days	Required man-months of seasonal labor
January	5,126	18	285
February	5,944	19	313
March	2,460	21	118
April	2,444	22	112
May	20,374	24	849
June	5,429	25	218
July	9,642	26	371
August	38,189	26	1,500
September	17,469	26	672
October	3,830	24	160
November	7,676	23	334
December	5,954	18	331
Total	124,537	--	5,263

[illegible]

Notes

Notes on Table 2.-- Data concerning "time of need" as shown in this table break down required seasonal labor into the period in which the work is performed in order to permit a subsequent determination of labor needs by months (table 3). Some operations are performed only to a limited extent with seasonal labor. For instance, only about 80 per cent of the labor in harvesting grain is done by seasonal workers. When a job extends over several different months, the proportionate amount for each month is shown.

The amount of work done each month is based on the cropping system followed during 1935. The allotting of amounts of work is based on findings concerning local farm practices, and required time to "make" a crop resulting from inquiry of producers, and records of carlot shipments, the latter proving helpful in fixing dates of planting and of subsequent tasks involved in producing certain crops. Proportionate amounts of output harvested each month were determined from data of local practices with respect to harvesting, and from carlot shipments of perishable products. Records of truck shipments were also used when available.

Notes on Table 3.-- Table 3 is the condensed summary of labor needs as worked out for Yuba County as a result of findings pertinent to 1935. The data are presented by months with the tasks which were performed in each month indicated by both crop and task. The size of the job was calculated from the data appearing in table 1 (acreage and production) and table 2 (task, time of performance, and percentage of work pertinent to a given month). The output per man-day was calculated as indicated in the foreword presenting table 3. The number of required man-days is a result of dividing the size of task by output per man-day. The available days for the different tasks involve two variables. The first is the number of days when field work is possible because of favorable weather conditions. The basis for this column was determined from a study of the monthly weather charts of the United States Weather Bureau for the years 1933, 1934, and 1935. These data indicated available days per month as follows (based on a 26-day working month without allowance for holidays):

Month	Available days	Length of work day	Month	Available days	Lenth of work day
		hours			hours
January	18	9	July	26	10
February	19	9	August	26	10
March	21	10	September	26	10
April	22	10	October	24	10
May	24	10	November	23	9
June	25	10	December	18	9

Source of data:
Based on precipitation records of the Marysville station of the United States Weather Bureau for the years 1933, 1934, and 1935.

The second factor influencing the number of available days was the size of the job. If the output was only a few cars, then the number of days was limited to the time needed to get out those cars efficiently. If a field operation had to be performed in a period less than the number of available days in the month, then the specific number of days was noted. These restrictions are shown in parentheses. For example, in June picking of cherries was limited to the first 10 days of the month, picking apricots to the last 25 days, etc.

The totals of table 3 show the total required man-days of needed seasonal labor, the available days for field work during the month, and the necessary number of men (as defined in the opening paragraph of table 3) required on a monthly basis to care for the tasks ordinarily performed by seasonal workers.

In an area such as Yuba County, involving a variety of annual crops, the findings as set forth in this report are bound to fluctuate materially from year to year, because of the market outlook upon what and how much acreage is planted, and when it is planted; because of variable seasonal conditions affecting yields, time of performing operations, and available days; and because of harvesting operations on certain crops being speeded up to supply a good market, or retarded to avoid a poor one, resulting in marked variations in the need for harvest labor.